

30. An apparatus according to claim 27, wherein the cutting edge implement is a hot wire that is supported for substantially its entire effective cutting length by the insulating insert.

33. An apparatus according to claim 27, wherein the cutting edge implement comprises a hot wire.

34. An apparatus according to claim 27, wherein the suspending means suspends any relative lateral movement between the cutting edge implement, the film, and the anvil for approximately one second.

35. An apparatus according to claim 27, wherein the insulating insert is made of either mica or ceramic glass.

#### REMARKS

Applicants request favorable reconsideration and allowance of the subject application in view of the preceding amendments and the following remarks.

Claims 1-4, 7, 8, 11-18, 21-24, 26-30 and 33-35 are presented for consideration.

Claims 1, 8, 15, 23, and 27 are independent.

Claims 5, 6, 9, 10, 19, 20, 25, 31, and 32 have been canceled herein without prejudice or disclaimer. Applicants have amended claims 1, 8, 15, 23, and 27 to clarify features of

the subject invention. Support for these changes can be found in the original application as filed. Therefore, no new matter has been added by these amendments.

In the Office Action, claims 1, 2, 8, 14-16, 23 and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,546,732 to Coleman et al. and claims 27, 30, 31, and 33 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,115,182 to Wildmoser. Claims 3, 4-7, 9-13, 17-20, 24, and 26 were variously rejected under 35 U.S.C. § 103(a) as being unpatentable over the Coleman et al. patent in view of U.S. Patent No. 6,260,336 to Motomura, U.S. Patent No. 5,718,101 to Noel et al., U.S. Patent No. 6,305,149 to Gorlich et al., U.S. Patent No. 5,094,657 to Dworak et al., or U.S. Patent No. 5,689,937 to Gorlich, et al. Also, claims 28, 29, 32, 34 and 35 were variously rejected under 35 U.S.C. § 103(a) as being unpatentable over the Wildmoser patent in view of the Motomura patent, the Gorlich et al. '937 patent, and "design choice." Applicants traverse these rejections.

According to one aspect of the invention recited in claim 1 as herein amended, recites a method of severing and sealing a film formed of a thermoplastic material. The method includes, *inter alia*, the steps of (i) heating a cutting edge implement to **a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the thermoplastic material;** (ii) feeding **a plurality of layers of the film** between the cutting edge implement and an opposing surface; and (iii) thereafter, suspending any relative lateral movement between the cutting edge implement, the film, and the opposing surface, while relatively biasing the cutting edge implement and the opposing surface together with the plurality of layers of film pinched therebetween, until

**the cutting edge implement cuts through the plurality of layers of film, contacts the opposing surface, and seals the plurality of layers of film together.**

In another aspect of the invention, independent claim 8, as herein amended, recites a method for severing and sealing a film. The method includes, *inter alia*, the steps of (i) clamping **a plurality of layers of film** between opposing surfaces; (ii) heating a cutting edge implement to **a temperature between 600° F and about 800° F to melt but not to burn the film**; and (iii) moving the cutting edge implement past one of the opposing surfaces toward the other surface so that the cutting edge implement presses against the film toward the other surface for a period of time sufficient to **sever the film and seal the resulting severed edges.**

In a further aspect of the invention, independent claim 15, as herein amended, recites an apparatus for severing and sealing a film formed of a thermoplastic. The apparatus includes, *inter alia*, (i) a cutting edge implement that is heated to **a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the thermoplastic material**, (ii) means for feeding **a plurality of layers of the film** between the cutting edge implement and the anvil; and (iii) means for suspending any relative lateral movement between the cutting edge implement, the film, and the anvil, while pressing the cutting edge implement toward the anvil with the film pinched therebetween, until **the cutting edge implement melts through the plurality of layers of film, contacts the anvil, and seals the plurality of layers of film together.**

In a still a further aspect of the invention, independent claim 23, as herein amended, recites a method of severing and sealing a film formed of a thermoplastic. This method

includes the steps of, *inter alia*, (i) heating a cutting edge implement to a **temperature between about 600°F and about 800°F, the temperature being sufficient to melt but not to burn the thermoplastic material** and (ii) pressing the cutting edge implement toward a substrate with a plurality of layers of film pinched therebetween, until the cutting edge implement **melts through the plurality of layers of film**, contacts the substrate, **and seals the plurality of layers of film together.**

In other aspects of the invention, independent claim 27, as herein amended, includes patentable features of the invention in addition to those recited in independent claim 25.

As such, according to the present invention, a cutting edge implement heated to a temperature of between about 600°F and about 800°F or 600°F and about 800°F, the temperature being sufficient to melt but not to burn a thermoplastic film, contacts a plurality of layers of film to sever and seal the plurality of layers of film. Applicants submit that at least these features of the invention are not disclosed in the cited art, whether that art is taken alone or in combination.

The Coleman et al. patent was cited in the Office Action as anticipating claims 1, 2, 8, 14-16, 23 and 25 and the Wildmoser patent was cited as anticipating claims 27, 30, 31, and 33. Applicants respectfully traverse these rejections. According to the amendments herein, each of independent claims 1, 8, 15, 23, and 27 recites a cutting edge implement heated to a temperature of between about 600° F and about 800° F or between 600° F and about 800° F. As acknowledged in the Office Action, neither the Coleman et al. patent nor the Wildmoser patent teaches operating at such a temperature. Accordingly, Applicants request that the rejections under 35 U.S.C. § 102 be withdrawn.

The Office Action does, however, in an obviousness rejection under 35 U.S.C. § 103, rely on the Gorlich et al. '149 patent to teach heating a cutting edge to a temperature range of less than 800° F but greater than 600° F. Applicants submit, however, that such a combination the Gorlich et al. '149 patent with either the Coleman et al. patent or the Wildmoser patent is improper. Under established Federal Circuit precedent, “obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. Under section 103, teachings of references can be combined *only* if there is some suggestion or incentive to do so.” *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984) (emphasis in original). Accordingly, “[t]he mere fact that [] prior art could be modified would not [make] the modification obvious unless the prior art suggested the desirability of the modification.” *In re Gordon*, 733 F.2d 900, 902, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984). In addition, Applicants submit that it is improper to “use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention,” *In re Fine*, 837 F.2d 1071, 1075, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988), because to do so would be “simply to use that which the inventor taught against its teacher.” *W. L. Gore v. Garlock, Inc.* 721 F.2d 1540, 1553, 220 U.S.P.Q. 303, 312-13 (Fed. Cir. 1983).

The Gorlich et al. '149 patent relates to a method of and apparatus for packaging meat. More specifically, the Gorlich et al. '149 patent discloses a sealer [86] for sealing a **single layer of film** [92] to a tray [55]. The **single layer of film** [92] is then cut by a cutting system [288] that includes a blade [290] having a heater [302] extending along its

periphery. (Col. 8, line 35.) According to Applicants' understanding, the heater of Gorlich et al. '149 patent is heated to a temperature within the range of 600° F to 800° F, but for the purpose of cutting a single layer of film, not to sever and seal a plurality of layers of film, as defined in each of the independent claims of the subject application. As such, while the Gorlich et al. '149 patent may teach heating a cutting edge implement to a specified range, and the Coleman et al. patent and the Wildmoser patent may teach using a heated implement to sever and seal plural layers of thermoplastic film, there is no suggestion or motivation in the prior art to combine the references, absent Applicants' disclosure and absent selectively picking and choosing among isolated prior art disclosures. This is impermissible.

With regard to the remaining rejections under 35 U.S.C. § 103, Applicants submit that none of the cited patents remedies the above-noted deficiencies.

The Motomura patent is directed to a cutter cleaning device for a charging machine. The Motomura patent is cited merely for teaching synchronous movement of a cutting edge implement, opposing surface, and film. Applicants submit, however, that the Motomura patent, the Motomura patent is silent with regard to the temperature of a cutting implement. Therefore, the Motomura patent adds nothing to the disclosures of the Coleman et al. patent, the Wildmoser patent, and the Gorlich et al. '149 patent that would render obvious the present invention, as recited in independent claims 1, 8, 15, 23, and 27.

The Noel et al. patent is directed to a method and an apparatus for packaging a product in a dual-lid package. The Noel et al. patent is cited merely for disclosing that the severing device [46] "preferably comprises a heated cutting element such as a heated wire or heated

blade.” (Col. 6, lines 31-34.) However, the Noel, et al. patent is silent with respect to any operating temperature, and, therefore, adds nothing to the disclosures of the Coleman et al. patent, the Wildmoser patent, and the Gorlich et al. '149 patent that would render obvious the present invention, as recited in independent claims 1, 8, 15, 23, and 27.

The Dworak et al. patent relates to a method and an apparatus for continuously forming and sealing low density polyethylene bags at a high speed. The Dworak et al. patent is cited merely for teaching pinching multiple layers of film together. The Dworak et al. patent, however, is silent with respect to temperature, and, therefore, adds nothing to the disclosures of the Coleman et al. patent, the Wildmoser patent, and the Gorlich et al. '149 patent that would render obvious the invention of independent claims 1, 8, 15, 23, and 27.

The Gorlich et al. '937 patent issued based on a parent application of the continuation-in-part application that issued as the Gorlich et al. '149 patent, discussed above. As such, Applicants submit that the Gorlich et al. '937 patent adds nothing further that would anticipate or render obvious the present invention.

For the foregoing reasons, Applicants submit that the art of record, whether taken alone or in combination, neither teaches nor suggests important features of the present invention, as recited in independent claims 1, 8, 15, 23, and 27. Applicants, therefore, request reconsideration and withdrawal of the rejections of claims 1, 8, 15, 23, and 27.

The remaining dependent claims depend from the independent claims, and should be deemed allowable for at least the same reasons given for those claims. The dependent claims also recite additional features that further distinguish the claimed invention from the


cited art. Further individual consideration and allowance of the dependent claims is requested.

This Amendment After Final Rejection is an earnest attempt to advance prosecution and is believed to clearly place this application in condition for allowance. At the very least, the Amendment reduces the number of issues on appeal. This Amendment was not earlier presented because Applicants earnestly believed that the prior amendment placed the subject application in condition for allowance. Accordingly, Applicants request entry of this Amendment under 37 C.F.R. 1.116.

Applicants submit that the subject application is in condition for allowance. Favorable reconsideration, withdrawal of the rejections set forth in the above-noted Office Action, and an early Notice of Allowance are also requested.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to the address given below for S.C. Johnson & Son, Inc.

Respectfully submitted,

  
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**VERSION WITH MARKINGS SHOWING CHANGES MADE TO CLAIMS**

1. (Amended) A method of severing and sealing a film formed of a thermoplastic material, comprising the steps of:

heating a cutting edge implement to a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the thermoplastic material;

feeding a plurality of layers of the film between the cutting edge implement and an opposing surface;

moving the cutting edge implement and the opposing surface relative to one another to pinch the plurality of layers of film therebetween; and

thereafter, suspending any relative lateral movement between the cutting edge implement, the film, and the opposing surface, while relatively biasing the cutting edge implement and the opposing surface together with the plurality of layers of film pinched therebetween, until the cutting edge implement cuts through the plurality of layers of film, contacts the opposing surface, and seals the plurality of layers of film together.

8. (Amended) A method of severing and sealing a film, comprising the steps of:

clamping a plurality of layers of the film between opposing surfaces;

heating a cutting edge implement to a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the film; and

moving the cutting edge implement past one of the opposing surfaces toward the other surface so that the cutting edge implement presses against the film toward the other surface for a period of time sufficient to sever the film and seal the resulting severed edges.

15. (Amended) An apparatus for severing and sealing a film formed of a thermoplastic material, comprising:

a cutting edge implement heated [that is heatable] to a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the thermoplastic material;

an anvil;

means for feeding a plurality of layers of the film between the cutting edge implement and the anvil;

means for moving the cutting edge implement and the anvil relative to one another to pinch the plurality of layers of film therebetween;

means for suspending any relative lateral movement between the cutting edge implement, the film, and the anvil, while pressing the cutting edge implement toward the anvil with the film pinched therebetween, until the cutting edge implement melts through

the plurality of layers of film, contacts the anvil, and seals the plurality of layers of film together.

23. (Amended) A method of severing and sealing a film formed of a thermoplastic material, comprising the steps of:

heating a cutting edge implement to a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the thermoplastic material,

pinching a plurality of layers of the film between a substrate and a cutting edge implement that is heated to a temperature sufficient to melt but not to burn the thermoplastic material; and

pressing the cutting edge implement toward the substrate with the plurality of layers of film pinched therebetween, until the cutting edge implement melts through the plurality of layers of film, contacts the substrate, and seals the plurality of layers of film together.

27. (Amended) An apparatus for severing and sealing a film formed of a thermoplastic material, comprising:

a cutting edge implement that is heated [heatable] to a temperature between about 600° F and about 800° F, the temperature being sufficient to melt but not to burn the thermoplastic material;

an insulating insert for supporting the cutting edge implement;

a base member for supporting the insulating insert;

an anvil for placement adjacent to the cutting edge implement on a side of the cutting edge implement opposite from the insulating insert and the base member;

means for feeding a plurality of layers of the film between the cutting edge implement and the anvil;

means for moving the cutting edge implement and the anvil relative to one another to pinch the plurality of layers of film therebetween; and

means for suspending any relative lateral movement between the cutting edge implement, the film, and the anvil, while pressing the cutting edge implement toward the anvil with the film pinched therebetween, until the cutting edge implement melts through the plurality of layers of film, contacts the anvil, and seals the plurality of layers of film together.